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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/788,979 | 02/27/2004 | Wolfgang Aderhold | 008304 | 6862 |
| 60300 7590 09/16/2011 LAW OFFICES OF CHARLES GUENZER ATTN: APPLIED MATERIALS, INC. 2211 PARK BOULEVARD P.O. BOX 60729 PALO ALTO, CA 94306 | | | | |
| EXAMINER | | | | |
| PAIK, SANG YEOP | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 3742 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 09/16/2011 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/788,979

Applicant(s)

ADERHOLD ET AL.

Examiner

SANG PAIK

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-5, 7, 8, 13-15 and 30-32 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-5, 7, 8, 13-15 and 30-32 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CIB-300)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____
- Paper No(s) Mail Date ____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Paranjpe (US 5,601,366).

Paranjpe shows the method claimed including a radiant source (50), a substrate/wafer (29) that is disposed with a front side facing downwardly, and pyrometrically monitoring the radiation emitted from the front side of the substrate wherein the radial positions are monitored. Also see Figure 2, and column 5, lines 29-59).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-5, 7, 8, 13-15 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paranjpe (US 5,601,366) in view of Moslehi (US 4,891,499), Ballance et al (US 6,090,210) or Anderson et al (US 6,113,703).

Paranjpe shows the method and the apparatus claimed including a radiant source (50), a substrate/wafer (29) that is disposed with a front side facing downwardly, and pyrometrically monitoring the radiation emitted from the front side of the substrate wherein the radial positions are monitored. But, Paranjpe does not show a peripheral fixture including an annular shelf.

Moslehi '499 shows a reactor chamber (12) having a radiant heat source (24) for thermal processing of a substrate/wafer (28) with its front side/device side (28) face down the reaction chamber wherein the substrate is supported by an annular ring/shelf (46) contacting the substrate via pins (56) which further shows having a slope for supporting and extending under the substrate around its center wherein the ring with the pins extends or overlaps no further than an edge of the front side of the substrate (also see Figures 2 and 3, and column 6, lines 57-61). Ballance also shows a thermal processing apparatus with a radiant source, an annular ring (18) for contacting and holding a substrate wafer with an edge which extends or overlaps an edge of the substrate, a chamber (12) for holding the substrate therein, and Ballance further shows a reflector (28) parallel to the substrate and a pyrometer (34) for measuring temperatures at a plurality of radial positions relative to the center of the substrate. Anderson also shows that it is well known in the art to provide a sloping annular ring (16) for contacting and supporting a wafer thereon for the wafer that is processed in a thermal processing apparatus.

In view of Molehi '499, Ballance or Anderson, it would have been obvious to one of ordinary skill in the art to adapt Paranjpe with an annular ring for contacting and

supporting the substrate that is well known in the art, and it would also have been obvious to adapt Paranjpe with a reflector in the reactor (12) to allow more even heat distribution in the chamber for thermally processing and heating the substrate disposed therein.

With respect to claim 4, while the recited edge exclusion zone of no more than 3 mm is explicitly shown, it would have been obvious to one of ordinary skill in the art to adapt Paranjpe limit such zone within the recited range or any other suitable range as a matter of a routine experimentation to provide the supporting holding means with only a minimum extension that would adequately and sufficiently support the substrate without much overlapping or blocking the thermal processing of the working surface of the substrate.

Response to Arguments

5. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y. Paik whose telephone number is 571-272-4783. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SANG Y PAIK/

Primary Examiner, Art Unit 3742